

as claimed can be made by another and materially different process such as one that does not require a continuous vacuum. The product as claimed in Group II cannot be made by another and materially different process. Performing the steps continuously and in a vacuum is necessary for invention of Group II. Further, as now amended, Claim 13 requires a process gas mixture comprising inert gas, an oxygen gas, and a nitrogen gas. The invention of Group II cannot be made by another and materially difference method.

Therefore, Applicants respectfully request the Examiner to reconsider the restriction of the claims and examine claims 13-18 and 20 in this application.

IV. Rejections Under 35 U.S.C. § 112

Claims 1-12 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Claims 1-12 have also been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Applicants have cancelled claims 1-12 and have rendered the present rejection moot and respectfully request withdrawal of the present rejection.

V. Rejections under 35 U.S.C. § 102

Claims 13-18 have been rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5, 635,037 to Chu (hereinafter “Chu”).

Applicants respectfully traverse this rejection. Claim 13 recites “conducting the steps of forming a laminate, forming a protective layer, and plasma-etching continuously.” The Examiner contends that Chu discloses the plasma etching step performed continuously with the other steps.

Applicants respectfully disagree. Chu does not perform the steps, as recited in the present claims, in a continuous fashion.

Chu discloses a step of forming a masking layer prior to performing his plasma etching of the protective layer to create a textured surface. Chu states:

the various steps in preparing the magnetic recording medium, including the formations of the underlayer, the magnetic layer, protective layer and the masking layer...as well as the creation of surface texture by the use of sputter etching or reactive ion etching, can be successively performed in the same vacuum apparatus.

(Chu, col. 7, lines 26-33). The claims do not recite a step of forming a masking layer. Chu adds the step of forming the masking layer between “forming a protective layer” and “plasma-etching a first surface.” Thus, Chu does not disclose continuously forming the protective layer, and then, without intermediate steps, plasma-etching the first surface.

Additionally, Chu does not disclose all of the elements of amended claim 13. Claim 13 now recites the plasma-etching step is conducted in a process gas mixture comprising an inert gas, an oxygen gas, and a nitrogen gas. Chu does not disclose the use of a nitrogen gas.

Applicants respectfully submit that amended claim 13 is allowable over Chu for the reasons above. Additionally, the Applicants respectfully traverse the rejection of claims 14-18 by stating that these claim define over the prior art based on their own recital and their dependency from the independent claim. Therefore, Applicants respectfully request the Examiner withdraw the rejection.

VI. Rejections under 35 U.S.C. § 103

Claim 1-12 and 18 have been rejected under 35 U.S.C. § 103(a) as being unpatentable for obviousness over Chu in view of the ordinary skill in the art.

Amendments to the Specification

Please amend the specification as follows:

Please replace the paragraph beginning on page 8, line 18, with the following paragraph:

According to another embodiment of the present invention there is provided a method, wherein: the step of forming the laminate for magnetic data recording is a method selected from the group consisting of sputtering, ion plating, plasma ~~C.D.~~, CVD and vacuum deposition.

Please replace the paragraph beginning on page 8, line 22, with the following paragraph:

According to another embodiment of the present invention there is provided a method, wherein: the step of forming the protective layer is a method selected from the group consisting of sputtering, ion plating, plasma ~~C.D.~~ CVD, and vacuum deposition.

Please replace the paragraph beginning on page 11, line 24 with the following paragraph:

Sputtering, ion plating, plasma ~~C.D.~~ CVD, vacuum deposition and other methods may be used to deposit layers 2, 3, 4, and 5 according to manufacture need and demand.

Amendments to the Claims

Claims 1-12 (Canceled)

Claim 13 (Currently Amended): A method for manufacturing a thin-film magnetic recording medium, comprising the steps of :

forming a laminate for magnetic data recording on a nonmagnetic substrate;

said step of forming being a dry processes in a vacuum atmosphere;

forming a protective layer on said laminate;

said step of forming a protective layer being a dry process in a vacuum atmosphere;

plasma-etching a first surface of said protective layer;

said step of plasma-etching conducted in a vacuum and in a process gas mixture comprising an inert gas, an oxygen gas, and a nitrogen gas;

conducting the steps of forming a laminate, forming a protective layer, and plasma-etching continuously; and

forming a lubricant layer on said first surface of said protective layer, whereby surface defects are minimized and surface quality is greatly improved.

Claim 19 (Canceled)

Claim 20 (Original) A magnetic recording medium produced by the method of claim 13.